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FOOD NEWS

FOR CONSUMERS

United States Department of Agriculture Volume 1 Number 2
Autumn 1984

Holiday Entertaining with
Safe, Festive, Low-cal Foods



Also Featuring:

Talking Turkey — Answers to Questions Frequently Asked About Turkey

Where to Get Inexpensive Firewood and Reduce Your Heating Cost

Don't Buy Exotic Birds from Strangers

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Autumn 1984
Vol. 1, No. 2

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PERSPECTIVES



Dear Reader:

This issue of *Food News for Consumers* focuses on the holiday season — from keeping foods safe to maintaining good health. In the flurry of holiday activity, these two important goals are sometimes overlooked.

Two feature stories, "Talking About Turkey" and "Pass the Party Fare, Hold the Calories!" can help you incorporate food safety and good nutrition into your holiday parties. For more information, contact the person listed at the end of each article.

We have also included information from two new publications, *The Safe Food Book*, Home & Garden Bulletin Number 241, and *Talking About Turkey*, Home & Garden Bulletin Number 243. Single copies are available free from: FSIS Publications Office, Room 1163-South, U.S. Department of Agriculture, Washington, D.C. 20250.

And, as always, we want to remind consumers — particularly those planning and cooking the holiday meal — that we are only a phone call away. For fast answers to questions about the safety, wholesomeness, or labeling of meat and poultry, call the Meat and Poultry Hotline (202) 472-4485 (not toll free), or write to Meat and Poultry Hotline, USDA, FSIS, Washington, D.C. 20250.

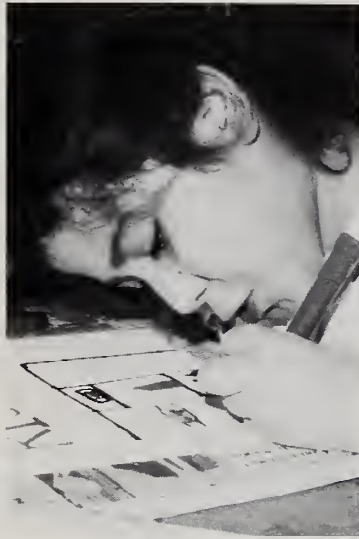
We hope you will find this issue of *Food News for Consumers* useful and interesting. Please let us know when you need additional information or if you have any suggestions. We like to hear from you.

Have a happy, healthy holiday season!

Sincerely,

Ann Collins Chadwick

Ann Collins Chadwick, Director
Office of the Consumer Advisor



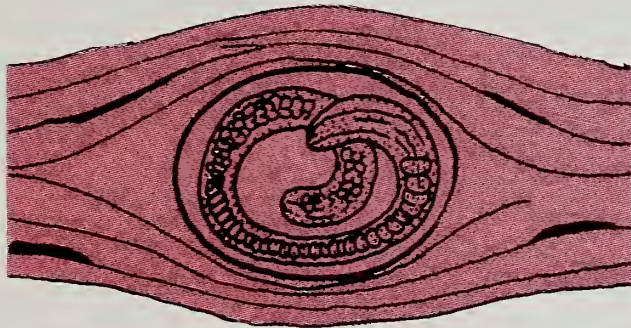
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CONSUMER EDUCATION

Pass the Party Fare; Hold the Calories!

The party season does not have to mean high calorie foods. It's easier than you think to avoid calories. Many festive and delicious foods are suitable for the weight-conscious party-goer at the buffet table.

Buffets are perfect for parties. They're easy for the host or hostess, and guests can select the dishes that please their palates and their waistlines.

Raw vegetables for dipping are always appropriate appetizers. Old favorites — carrots, celery, cauliflower, broccoli, cucumbers, green peppers, and radishes — are always good, but party tables also can include yellow squash, zucchini, turnips, and even fresh green beans. A dip made of yogurt, small amounts of minced onion, Worcestershire sauce, and salad herbs is a good choice for a raw vegetable platter. Low-fat cheeses also complement raw vegetables.

Beverage ideas include a punch that combines unsweetened fruit juices with carbonated water or low calorie carbonated beverages of different flavors. For a festive punch-bowl, arrange red and green maraschino cherries, or other fruits, in a round gelatin mold that has a hole in the center. Fill with water to a depth of 1½ to 2 inches and freeze. When unmolded and placed fruit-side-up in punch, the ice ring or "wreath" will be both colorful and functional.

Turkey, chicken, fish, shrimp, ham, veal, pork, and beef make good main dishes for a buffet. Select lean ham, pork and beef, and trim any

visible fat. Remove the skin from poultry before serving.

For added flavor, marinate lean meats and poultry in your favorite low calorie mixture of spices, herbs, mushrooms, garlic, onions, tomato juice, vinegar, lemon juice, or dry red wine. Place the meat or poultry in an oven roasting bag with the marinade, or baste frequently while cooking. These foods should be roasted at low to moderate temperatures.

Marinades that aren't too tart may also serve as sauces. Veal and fish are both enhanced with lemon butter sauce — but be stingy with the butter and generous with the lemon.

Combination main dishes include shrimp jambalaya, shrimp creole, beef burgundy, and stir-fry dishes that begin with shrimp or lean cuts of beef, pork or poultry. Many combina-

tion dishes are served over pasta or rice — good choices for dieters. These become festive and interesting foods when served with a variety of vegetables, which are low in calories and high in color, flavor and texture.

Favorite vegetables for stir-fry dishes are tomatoes, peppers, celery, carrots, onions, broccoli, spinach, pea pods, cauliflower, mushrooms, bean sprouts, water chestnuts, and bamboo shoots. Add flavor with your favorite spices and herbs, soy sauce, and bouillon cubes dissolved in water. Keep calories even lower by using very small amounts of oil.

Nobody wants to give up bread — and you shouldn't. If you have time, you may want to make bran



muffins or another bread that has an interesting texture. Bakeries offer brown breads and rolls that taste wonderful when warmed and lightly brushed with butter. Guests can decide for themselves if they want to add more butter.

A party isn't complete without dessert. A fruit compote not only looks beautiful, but it is a perfect choice for the guests who have already sampled everything on the buffet table. Try any combination that provides contrasts in flavor, color, shape, and texture.

Start with fresh fruits that are in season and add others as taste and budget allow. Bananas, oranges, strawberries, blueberries, pineapple, seedless grapes, grated coconut, and peaches are all good choices for the fruit compote.

When fresh fruits like strawberries, blueberries and peaches are not plentiful, they can be found in the frozen food case at the supermarket. For best texture, put them in the refrigerator until just thawed, and then mix them with other fruits. Pineapple chunks canned in their own juices, and canned or packaged grated coconut are available year-round. To preserve the fresh color of fruits that tend to brown, add a small amount of orange juice and toss lightly to coat all the pieces.

A low calorie dessert topping can be made by blending a small amount of sugar and ground ginger with sour cream or — for less calories — sour cream dressing. Use a small dollop on each compote and garnish with maraschino cherries, strawberries, kiwi fruit, or mint leaves.

Remember, the key to successful calorie trimming is selecting lower calorie ingredients, trimming visible fat, using herbs and spices, using light sauces instead of rich ones, and using cooking methods like broiling, steaming and roasting.

Entertaining with low-calorie menus is in keeping with today's emphasis on health and fitness, and it can be just as festive and delicious as

with high-calorie menus. Moreover, the guests at your next party will be grateful when they step on the scales the next morning.

For more information, contact:

Ann Collins Chadwick, Director, Office of the Consumer Advisor, Rm. 232-W, Admin. Bldg., U.S. Department of Agriculture, Washington, D.C. 20250; telephone: (202) 382-9681.

Let Food Safety Be the Centerpiece of Your Buffet

Increasingly popular, buffets offer both a creative and efficient way to entertain a large number of guests in a limited space. Serving meals buffet style, however, does require extra food safety precautions. The two basic rules to remember are keep hot food hot and cold food cold.

Instead of setting out large buffet servings, try smaller ones, replenishing the food as needed from the stove or refrigerator. If meat, poultry or egg dishes are left at room temperature for more than two hours, food poisoning bacteria may have an opportunity to grow. Frequent refilling ensures that these foods will remain safe to eat.

Heated serving dishes — such as hot trays or chafing dishes — are great for keeping food warm and tasty, but they may not keep foods at a high enough temperature to prevent

the growth of harmful bacteria. Hot foods should be kept hot (between 140°F and 165°F) until served.

Cold meats, potato salad, meat salads and other cold foods should be stored in the refrigerator at 40°F or below, until served.

After eating, cover and refrigerate all perishables immediately, especially meat and poultry products. Divide large meats and other foods into smaller portions. Food in small portions cools more quickly to temperatures where bacteria quit growing.

For more information on food safety, request: "The Safe Food Book," telephone: (202) 447-9351, or contact: Information Office, FSIS/ILA, U.S. Department of Agriculture, Room 1160-S, Washington, D.C. 20250; telephone: (202) 447-9113.

Talking About Turkey

Turkey may be the main attraction in many holiday meals, but that doesn't necessarily mean consumers know all they need or want to know about how to buy, store, thaw, stuff and prepare this holiday favorite. Here are answers from the U.S. Department of Agriculture to commonly asked questions about turkey.

Q: When selecting a turkey, is there anything I should look for on the label?

A: Yes, two pieces of information are important. One is the inspection mark that lets you know the turkey has been inspected for wholesomeness and accurate labeling. The other is a USDA grade symbol. Most turkeys marketed today are grade A,

which means that they are meaty, have a well developed layer of fat in the skin and are practically free from broken bones, pinfeathers, bruises, cuts and tears on the breast and legs.

Q: Is there a difference between fresh and frozen turkey?

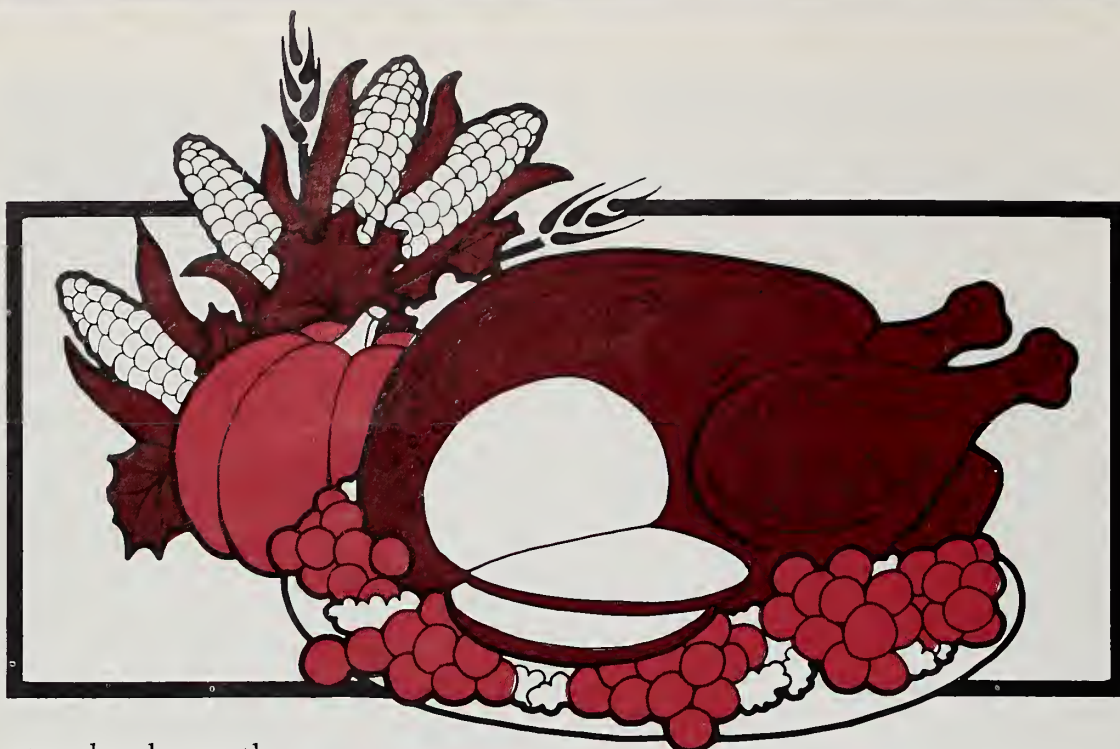
A: There is no significant difference in quality between a fresh and frozen turkey. The decision to buy one or the other is based on personal preference.

Q: How long can I keep a frozen turkey in my freezer?

A: A whole frozen turkey — prestuffed or unstuffed — can be stored in your home freezer at 0°F or below for up to one year without appreciable loss of quality.

Q: How long can a fresh turkey be stored in a home refrigerator?

A: Fresh turkeys should be



stored no longer than two days in a home refrigerator.

Q: How can I figure what size turkey will feed the crowd I'm serving?

A: You can figure on one pound of turkey per person. If the turkey is prestuffed, allow 1½ pounds per person. This will provide generous servings with enough left over for second day dishes.

Q: What is the safest way to thaw a turkey?

A: Your best bet is to thaw the turkey in your refrigerator. Simply place the turkey in its original wrap on a tray or in a pan to catch moisture that accumulates as it thaws.

Thawing Time for Whole Turkey in the Refrigerator

8 to 12 pounds	1 to 2 days
12 to 16 pounds	2 to 3 days
16 to 20 pounds	3 to 4 days
20 to 24 pounds	4 to 5 days

Q: I forgot to take my turkey out of the freezer to allow enough time for it to thaw in the refrigerator. Isn't there a faster method that is also safe?

A: You can thaw the turkey in cold water. Check the wrapping to make sure it is not torn, and simply place the bird in its unopened bag in the sink or in a large container and cover it with cold water. If the wrapping is torn, place the turkey in

another plastic bag, close securely, and then place in water. You will need to change the water frequently — about every 30 minutes — to assure safe but effective thawing.

Thawing Time for Whole Turkey in Cold Water

8 to 12 pounds	4 to 6 hours
12 to 16 pounds	6 to 9 hours
16 to 20 pounds	9 to 11 hours
20 to 24 pounds	11 to 12 hours

Q: I want to stuff my turkey. When should I do it?

A: Turkeys should be stuffed only at the last minute. The dry stuffing ingredients may be prepared the day before, covered tightly and left at room temperature. The perishables — such as butter or margarine, mushrooms, oysters, cooked celery, or onions and broth — should be refrigerated. The ingredients should then be combined just before stuffing the turkey. Allow ¾ cup of stuffing for each pound of ready-to-eat turkey. Extra stuffing may be baked separately.

Q: How can I tell when the turkey is cooked?

A: The most reliable method for detecting doneness is by using a meat thermometer. The turkey is done when the temperature reaches 180°F to 185°F in the inner thigh of whole

turkeys and in the center of the thickest part of turkey pieces. To check the stuffing, insert the thermometer through the body cavity into the thickest part of the stuffing and leave it for five minutes. As soon as your turkey is completely cooked, you should remove all the stuffing from the cavities. Harmful bacteria are more likely to grow in the stuffing if it sits in the bird after cooking. If you do not need all the stuffing for first servings, you can put the remaining stuffing in the oven at 200°F to keep it hot until you need it.

Q: How long is it safe to keep cooked turkey leftovers at room temperature?

A: Think of the post-cooking stage as a countdown which begins when you take the turkey out of the oven. From that time, you have approximately two hours to serve it and then refrigerate or freeze the leftovers — the turkey, stuffing and gravy — before bacteria that cause food poisoning can multiply to undesirable levels.

Q: How can I get more information on how to safely buy, prepare, and store turkey?

A: By writing to: Consumer Information Center, Pueblo, Colo. 81009, and requesting a free copy of "Talking About Turkey: How to Buy, Store, Thaw, Stuff, and Prepare Your Holiday Bird."

Firewood Available from National Forests

If you depend on a fireplace during the autumn and winter months — for warmth or just for atmosphere — chances are you're concerned about the availability and cost of firewood. But if you live near a National Forest, you may be in luck.

The U.S. Department of Agriculture's Forest Service is making firewood available from 155 national forests — most of which are located in the western half of the country.



Damaged trees, like this one, are cut down for firewood.

Usually, there is a minimum \$10 charge for the firewood, and you must have a permit before you can haul it away. Depending on local supply and demand, you might be able to get free firewood from some forests. The free wood is often of lower quality and located in remote areas. You also need a permit for free wood.

Generally, what's available is downed and dead wood killed by insects or disease or wood left behind after logging operations. In some areas, surplus live trees may be designated for cutting to improve forest conditions. You will need a saw or an axe to cut the wood into manageable lengths. Chain saws must have mufflers or spark arresters in good working condition. After cutting, the wood will have to be carried to the nearest road.

The firewood program is administered by local Forest Service district rangers. You can find their offices in the telephone directory under U.S. Government, Agriculture Department, Forest Service. Call the office first to

obtain a permit and to check on the availability of wood.

State and county foresters may also know where wood is available from other public lands or from private lands used by logging companies. Their offices are generally listed in the telephone directory under state or county government headings.

Kids Learn Food Safety Can Never Take a Holiday

Food Safety can never take a holiday. Whenever people get together and prepare large quantities of food — during the year-end holidays, family, religious and ethnic celebrations, or national holidays — it's important to observe some special food safety precautions.

FSIS brings these food safety lessons to schools through its annual National Food Safety Poster Contest. Contest teaching kits will be mailed in October to every school in the country, and will use a holiday theme to explain why people must be extra careful when preparing foods for larger than usual gatherings on special occasions.

At these times, people are usu-

ally rushed, preparing large amounts of food in a busy kitchen and serving the meal buffet style — factors which can contribute to food poisoning if safety practices are not followed. Some 280,000 children were affected by food poisoning illness last year.

The contest is designed to teach children how to properly handle and prepare perishable foods. First, the students learn the basic rules of food safety. Then they must use those rules to design their posters.

First-place winners and their teachers will each receive a \$200 savings bond, plus a trip to Washington, D.C., for the awards ceremony. In addition, the winning children's schools will receive \$350 for library and audiovisual equipment.

Second-place winners and their teachers will win \$100 savings bonds. Third-place winners and their teachers will win \$50 savings bonds.

Donors for this year's prizes are the National Broiler Council, the American Meat Institute, the National Porkettes, the Food Marketing Institute, the National Food Processors Association, and the U.S. Capitol Historical Society.

Teachers or principals who have not received the teaching kit by the end of November may request one



Amy Wolfe, of Nottingham Elementary, finishes poster for the 1984 Contest.

from: 1985 National Food Safety Poster Contest, P.O. Box 14313, Dayton, Ohio 45414. Poster entries are due at that address by February 11, 1985.

Don't Buy Exotic Birds from Strangers

The parrot isn't talking, so you'll have to find out for yourself where it came from.

Why is that important? Because some yellow-naped Amazon parrots smuggled into Southern California recently were infected with exotic Newcastle disease — a devastating foreign disease of birds and poultry. Other species of exotic birds might be infected, too.

Veterinarians with the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) have found the disease in some pet shops and wholesale pet bird facilities, and are tracing all shipments and sales from these facilities to locate and destroy any other birds that might be infected.

USDA officials stress that it is important consumers buy birds only from reputable sources, and never from strangers.

The disease has been confined to Pasadena and Norco, Calif.; Fruitland, Utah; Kansas City, Mo.; and Enid,

Okla. But infected birds also may have been shipped to several other locations in California, Missouri, and Oklahoma, as well as to Kansas, Texas, Louisiana, New Mexico, Arizona, and Iowa.

The most serious outbreak of exotic Newcastle disease in the United States occurred in 1971-73 in Southern California, when the disease spread from infected pet birds into a dense poultry population. Nearly 12 million birds — mostly laying hens — had to be destroyed at a cost of \$56 million to eradicate the disease. USDA pays owners indemnities to help cover their losses.

Although the disease kills poultry and caged bird species, it poses no health risk to people who eat poultry and eggs. However, the disease can cause a transitory eye inflammation or flu-like symptoms in people who handle infected birds.

In addition to the apparently infected smuggled birds, there were at least six legal importations of healthy yellow-naped Amazons. These healthy birds can be identified by a stainless steel leg band put on the birds when they entered quarantine.

For more information, contact Larry Mark, Information Division, Animal and Plant Health Inspection Service, U.S. Department of Agriculture, Federal Building, Room 732, 6505 Belcrest Road, Hyattsville, Md. 20782; telephone: (301) 436-7799.



Food Stamp Eligibility Limits Increased

On July 1, USDA's Food and Nutrition Service raised the income eligibility limits for people on food stamps by about three percent, reflecting increases in the cost of living since last year. Under the new guidelines, the gross monthly income limit for a family of four rose from \$1,073 to \$1,105, while the net monthly income — income after allowable deductions — went from \$825 to \$850.



Food Stamps make up the difference at the cash register for nearly 22 million needy persons.

To be eligible for food stamps, the income of a household headed by a disabled or non-elderly person can be no more than 30 percent above the poverty line. The household's net income cannot exceed the poverty line.

The food stamp program currently provides supplemental food assistance to nearly 22 million persons. Congress requires USDA to adjust the eligibility limits annually to reflect changes in the Consumer Price Index.

For more information on the food stamp adjustments, see: Press Release #688-84, "USDA Raises Food Stamp Eligibility Limits for Cost of Living Changes," or contact: Jane M. Vachon, Food and Nutrition Service, U.S. Department of Agriculture, 3101 Park Center Dr., Alexandria, Va. 22032; telephone: (703) 756-3286.

The Christmas Tree: A Most Important Holiday Purchase

In America the tradition of Christmas trees is as old as the nation itself. Folklore credits Hessian soldiers who fought for the British in the American Revolutionary War with introducing the Christmas tree to the colonists. Homesick in an alien land, the Hessians used wild forest pines to remind them of their homes and families in Germany.

With that introduction to a now long-established Christmas tradition, each December millions of Americans buy trees and take them home to be decked in tinsel, ornaments, and lights — to take center stage at the holiday celebrations.

Selecting the Right Tree

Although a few people still go into the forest to cut their own tree, most buy theirs from a neighborhood retail lot.

To make sure that you get a fresh tree, however, apply a few simple tests before making your purchase. First, bend a needle to check its resilience. If it doesn't break, but springs back into position, the tree is fresh. Or you can feel the bottom of the stump. A sappy, moist stump also indicates freshness. Bumping the base of the tree on the ground to make sure needles don't fall is yet another method to determine that a tree will look attractive throughout the holiday season.

An alternative to the retail lot cut trees is the choose-and-cut plantation. Here customers walk among the standing trees and choose the one they want. Not only does this ensure a fresh tree, but the selection can

become a family affair and an experience remembered long after Christmas.

In addition to cut trees, some Christmas tree dealers now sell increasing numbers of live trees. These are known as balled-and-burlapped, or B&B, trees. B&B's are available in a variety of species and can be planted outside after the holiday. A six- to seven-foot B&B tree should have a solid, well-compacted root ball 20 to 22 inches in diameter. If properly dug and cared for, the tree will be a living reminder of the joyous holiday season for years to come.

What shape and size tree you buy depends on where you plan to place it and your ceiling height. Some people want a slender tree; others, a larger, bulkier tree. Some prefer a full, compact specimen; others like more open space for ample decoration.

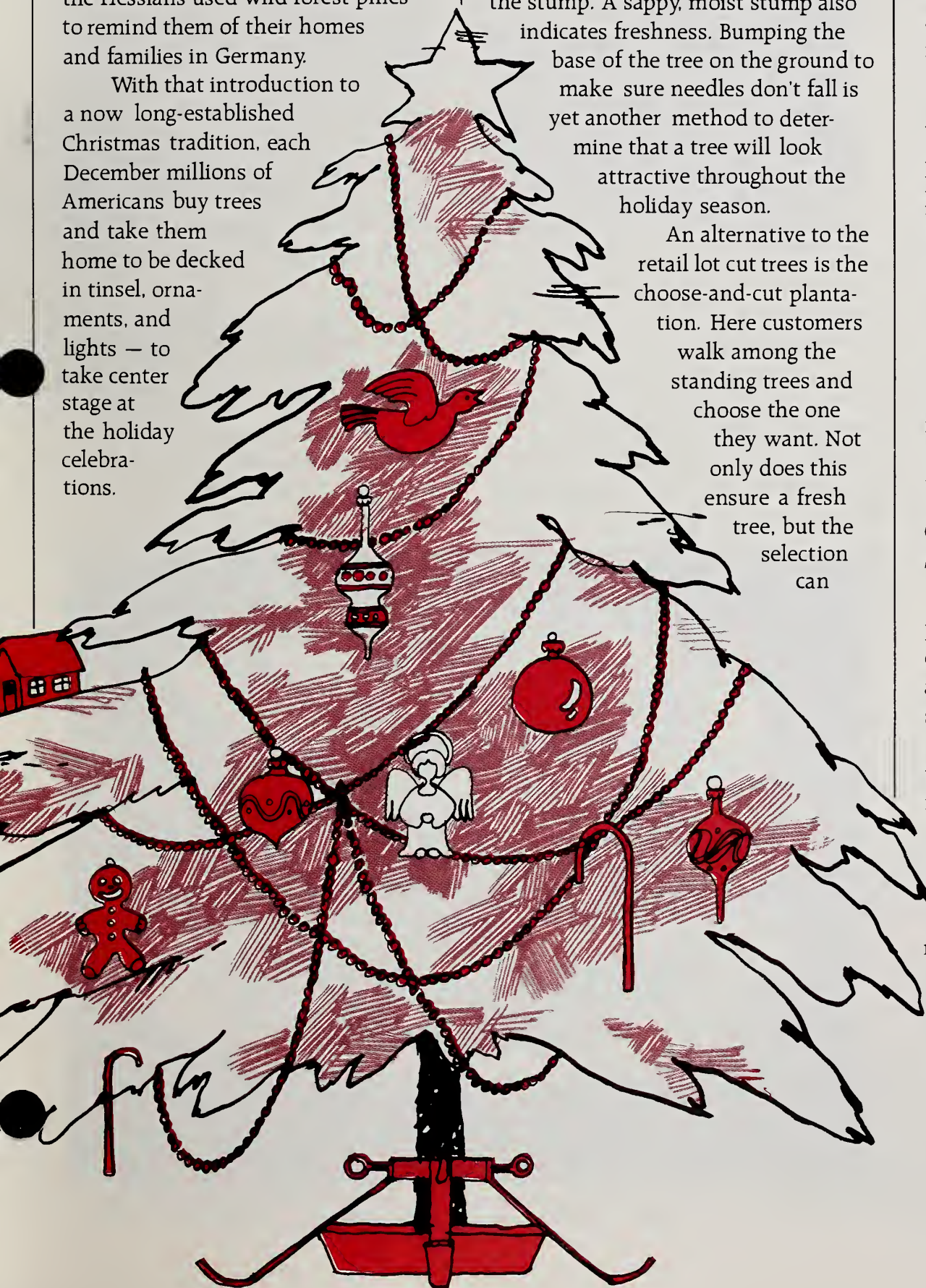
Although most people prefer a well-rounded and shapely tree, you may find it more practical and economical to buy one that is somewhat flat or sparsely branched on one side so that it fits into a corner or against a wall.

Caring for Your Tree at Home

Regardless of the type of tree you purchase, you'll need to give it proper care to ensure that it remains fresh — and safe — throughout the holiday season.

Keep a cut tree in a bucket of water in a cool, shaded area sheltered from the wind until you are ready to set it up. Just before putting the tree in its stand, cut an inch or two off the butt end. This fresh cut will allow the tree to take up water more readily once it is moved inside.

Once the tree is set up, immediately fill the tree stand with water to help prevent needles from dropping and to maximize the tree's fire resistance. Fresh trees take up water at a very fast rate — sometimes a quart or more daily. So, you should check the water level in the stand every two hours at first to



make sure it stays above the bottom of the tree's trunk. Later, check the water level at least once daily.

For safety, don't decorate trees with cotton, paper or other materials that burn readily; avoid wax candles and other types of open flame; and check lights and wiring for worn spots and cracks. Take care not to overload electrical circuits.

With a balled-and-burlapped tree, move it into an unheated, protected enclosure, such as a garage, carport or basement, for several days prior to use in the home. This conditioning process will help lessen the physiological effects of rapid changes in temperature and humidity the tree would otherwise experience.

Once the tree is inside, place the burlapped-ball in a washtub or similar waterproof container; and use sand to fill in around the root ball to help support the tree. Keep the ball moist, but avoid using too much water and creating standing water. It's best to limit the tree's stay indoors to a week — no longer than 10 days.

In colder climates, it's wise to have your planting site selected and the hole dug before the holidays. Place the fill dirt in an area where it will not freeze, and keep the hole open by filling it with mulch. Generally, if temperatures are above 20°F, you should plant the tree immediately after removal from the home. If immediate planting is not possible, however, place the tree in a sheltered area away from the wind and keep the ball moist.

During planting, water the tree well to eliminate air pockets in the soil. Thereafter, give it a good soaking twice a week. Use mulch to help stabilize the soil temperature and maintain moisture. You should also stake the tree to prevent loosening during its first year.

For more information on Christmas trees, contact: Jay Humphreys, Forest Service, U.S. Department of Agriculture, Rm. 3225-S, Washington, D.C. 20250; telephone: (202) 447-5873.



LOOKING AHEAD

Animal's Diet Affects Lamb Chop Flavor

Advances in the genetics, feeding and management of sheep are likely to result in a greater variety of taste in the lamb consumers will find in supermarkets in the near future.

Food technologists with USDA's Agricultural Research Service, with the help of a taste panel, found that diet, breed, sex, and slaughter weight influence the flavor characteristics of broiled lamb chops.

The panel's consensus: chops from ram lambs fed a mostly soybean diet had a mustier flavor and more aftertaste, but these tastes were less intense in chops from rams that had been on the diet longest. In contrast,

the panelists judged chops from ewes fed the same diet to be less musty and muttoney than the ram lamb chops. However, increasingly intense flavors appeared in chops from ewe lambs the longer they remained on the soybean diet.

Lambs fed alfalfa weighed more than those fed soybean meal, and produced chops of higher quality grades than soybean-fed lambs.

Ram lambs fed out to slaughter weights of about 150 pounds produced meat with more intense gamey and sweet flavors but less intense muttoney and musty flavors than did rams slaughtered at about 110 pounds.

The taste panel assessed the intensities of 11 flavor characteristics rather than the degree to which each panelist liked or disliked flavors. This eliminated personal taste preferences — such as preferring a strong flavor over a mild one — and made the test more objective.

For more information, contact: John D. Crouse, Roman L. Hruska, U.S. Meat Animal Research Center, P.O. Box 166, Clay Center, Nebr. 68933; telephone: (402) 762-3241.



Although these lamb chops may look similar, they may taste quite different. Researchers say diet, sex, breed, and slaughter weight of lambs influence the flavor of chops.



Crystals added to treated cotton (left) absorb heat or cold and transfer it to a person wearing the cloth. Conventional, untreated cotton (right) merely traps or deflects hot or cold air.

Chemicals in Fabric Provide a Built-in Thermostat

Clothing fibers containing minute plastic crystals that absorb and release energy might one day help keep persons warmer in winter and cooler in summer. Textile research now underway at USDA has shown that adding the crystals to standard yarns like cotton or rayon can make cloth absorb or release up to four times as much heat as ordinary fabric.

The crystals can be manufactured to absorb energy in different temperature ranges. So, in winter, crystals designed for use in freezing temperatures can absorb cold from the environment and release that energy as heat. Conversely, in summer, the crystals can absorb heat, releasing energy at lower temperatures.

The crystals convert the energy by going through a phase change — much like water to ice — but they do not actually change form.

Several practical problems need to be solved, however, if the thermostat-like fibers are to be used in commercial clothing. One big snag: the researchers need to find a way to

keep the plastic crystals from dissolving in water. Weight is also a factor since the crystals double the weight of cloth.

In addition to treating cloth, the crystals could be used to manufacture thermal material to insulate buildings and to protect plants, animals and food from extreme temperatures.

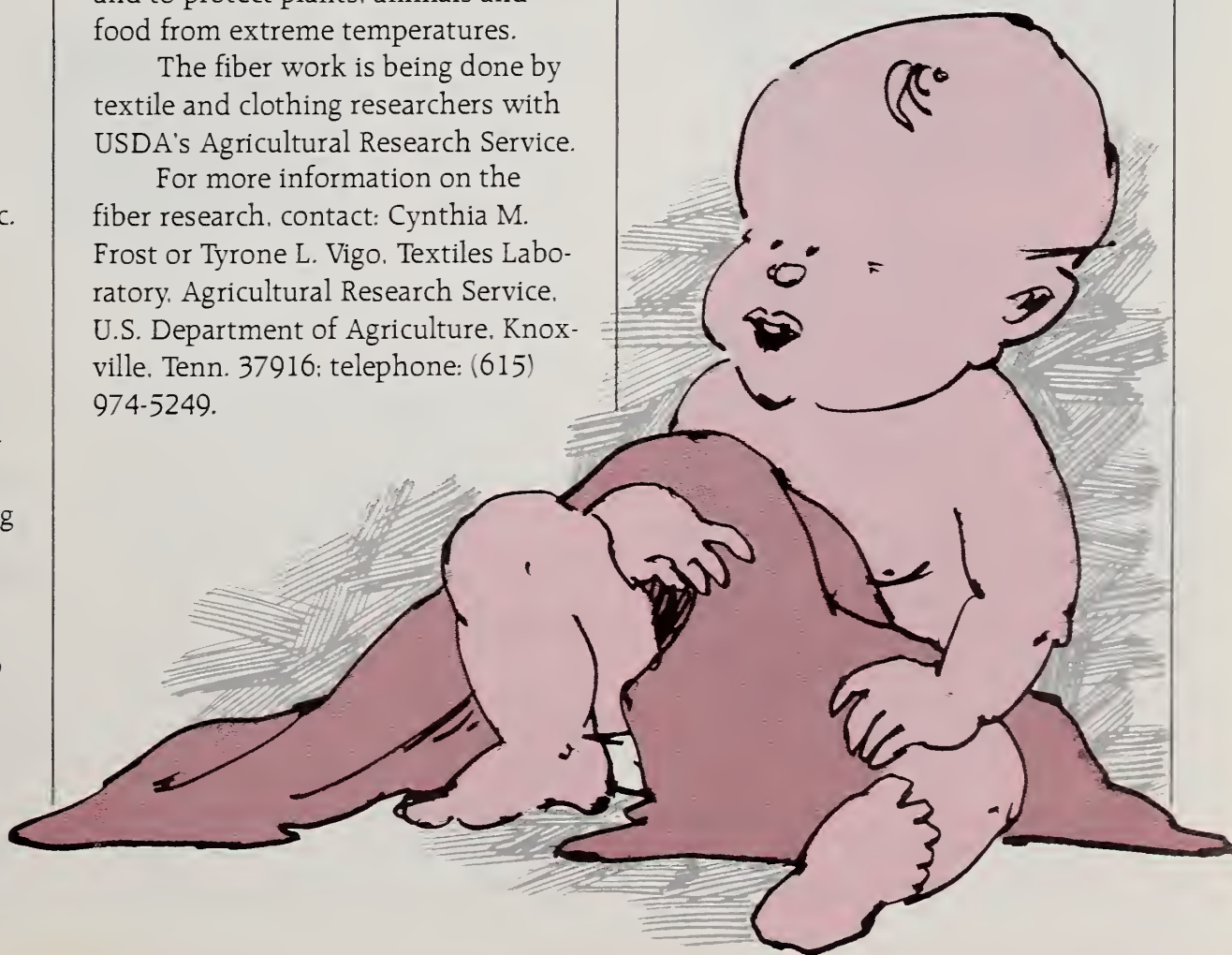
The fiber work is being done by textile and clothing researchers with USDA's Agricultural Research Service.

For more information on the fiber research, contact: Cynthia M. Frost or Tyrone L. Vigo, Textiles Laboratory, Agricultural Research Service, U.S. Department of Agriculture, Knoxville, Tenn. 37916; telephone: (615) 974-5249.

Equation Helps Predict Low Birth Weights

Researchers have come up with a mathematical equation that at mid-pregnancy can predict the birth weight of a fetus, thereby identifying those pregnant women likely to give birth to low weight babies. Once identified, these women could receive supplemental prenatal care that might promote the birth of a healthier baby.

To develop the equation, the scientists considered various factors from both a control and experimental group of low-income, pregnant women who visited prenatal clinics at the University of Oklahoma. The experimental group received aid under the Special Supplemental Food Program for Women, Infants and Children — WIC. The factors considered included the mother's age and level of education, smoking habits, the interval since her last pregnancy, the number of prenatal visits to a physician, nutritional measurements of the



mother during pregnancy, and the infant's sex and gestational age.

By factoring the variables for each woman, researchers could estimate the probable growth of the fetus; that is, the predicted birth weight. The factors, of course, also explained growth failure, with all of the factors accounting for 60 percent of birth weight variance.

The researchers' work also indicated that those women identified at greatest risk to give birth to babies under 5½ pounds were able to avoid fetal malnutrition and give birth to heavier babies if they received aid from WIC.

They also found that smoking was a significant cause of lower birth weights, accounting for 6 percent of birth weight variance. However, women who were heavy smokers — 10 or more cigarettes daily — but who received WIC program supplements from midpregnancy to birth, had infants who were 7 to 10.5 ounces heavier than infants of women who smoked but did not participate in the food program.

The study showed, however, that poverty-level family income does not correlate closely with the risk of low birth weight infants.

For more information on the predictive equation study, contact: Dr. Harold H. Sanstead, Human Nutrition Research Center on Aging, U.S. Department of Agriculture, Tufts University, 711 Washington Street, Boston, Mass. 02111; telephone: (617) 956-0300.

USDA, Floral Industry Team Up On Research for Better Flower Crops

A bouquet of flowers soon may express your sentiments more eloquently than ever before as a result of cooperative research by the U.S. Department of Agriculture and the national florist industry.

The Society of American Florists,



representing the floral industry, will provide \$250,000 toward the research, and USDA will match that amount in grants over the next five years. The industry also will help coordinate the research, which is aimed at improving the current floral crops and developing new ones.

Scientists with USDA's Agricultural Research Service initially will evaluate the growth and flowering of a diverse range of plants — including species not now found in this country. They will assess their resistance to pests and insects and their adaptation to tissue culture and micropropagation for quicker and greater production of plants.

Next, the researchers, with help from florists, will evaluate potential new crops in various regions of the country.

Other areas of research will include genetic engineering to improve germplasm in tissue culture by chromosome transformation, molecular biology to detect diseases, and physiology to investigate how whole plants regenerate from genetically modified

cells in tissue culture.

The florist industry is comprised of mostly small firms, without researchers and research facilities. They face increasing foreign competition and this research could not only increase domestic production and sales, but also help boost U.S. floral exports. In 1982, the industry grossed \$6 billion.

For more information, contact: Roger Lawson, Agricultural Research Service, U.S. Department of Agriculture, Bldg. 004, Rm. 101, Beltsville, Md. 20705; telephone: (301) 344-3570.

Protein in Milk Might Help Detect and Fight Disease

A protein present in both human body fluids and cow's milk might one day be used by doctors to detect diseases. In humans, the protein is called beta₂-microglobulin; in cows, it's lactolin.

Researchers with USDA's Agricultural Research Service found ele-

vated levels of the protein present in humans and animals affected by certain diseases. For example, tests of humans and animals with kidney damage showed the protein was secreted at 1,000 times normal levels.

Why this occurs is not known. But the high levels appear early in some diseases and could provide a clue to their detection.

The scientists so far have identified the amino-acid sequence of the protein, but are still trying to determine its exact role in the disease defense systems for humans and animals.

As part of their detective work, they hope to discover how certain cell surface proteins recognize foreign substances in the body and ultimately destroy the invaders. The research also could help geneticists identify missing antigens that would provide immunity against certain diseases in some persons.

For more information, contact: Merton L. Groves, Eastern Regional Research Center, Agricultural Research Service, U.S. Department of Agriculture, Philadelphia, Pa. 19118; telephone: (215) 233-6477.

Sensitive, More Precise Technique for Measuring Vitamin D Developed

Experts with the U.S. Department of Agriculture have discovered a highly sensitive and precise test that may one day tell whether persons need to increase or decrease their vitamin D intake.

The test involves using high pressure liquid chromatography — a type of chemical analysis — to measure levels of vitamin D and its metabolites in humans.

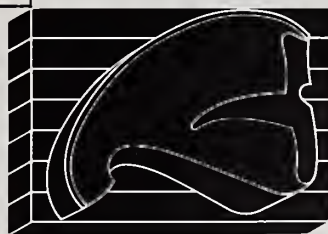
Vitamin D increases the absorption of calcium and phosphorous, minerals needed for healthy bones. Deficiencies in the vitamin can cause bone malformations — seen in chil-

dren with rickets — or a reduction in the mineral content of the bone — as seen in adults with osteoporosis.

The recommended dietary allowance — RDA — for vitamin D for children is 10 micrograms, the amount of the vitamin found in one quart of milk. For adults over 23 years, the RDA is five micrograms. The primary natural source of vitamin D is sunlight. Other good sources include fatty fish, eggs, liver and butter. In addition, most milk is fortified with the vitamin.

Researchers with USDA's Agricultural Research Service — who developed the new testing technique — are using it to conduct further studies to determine the role of vitamin D in patients with diabetes, malignancies, liver diseases and parathyroid disorders.

For more information, contact: Ronald L. Horst, Mineral Metabolism Research, National Animal Disease Center, Agricultural Research Service, U.S. Department of Agriculture, Ames, Iowa 50010; telephone: (515) 232-0250.



FOOD SAFETY

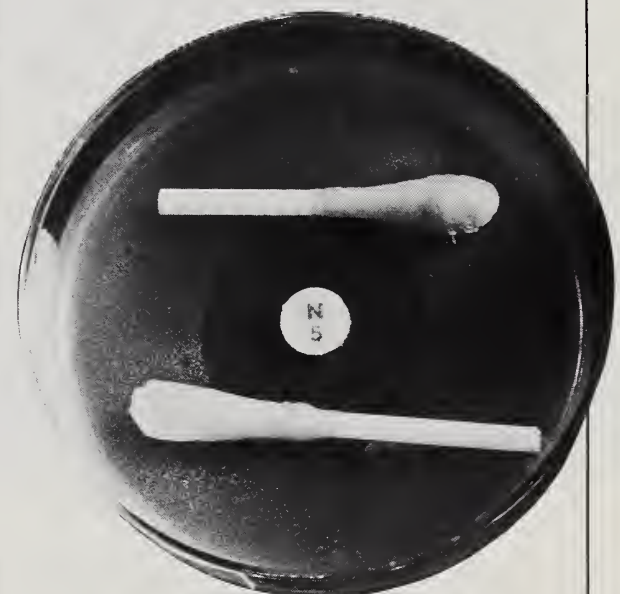
Intensified Testing for Drug Residues in Veal Protects Consumers

USDA inspectors are using a new test and an intensified testing program to keep veal with high drug residue levels from reaching consumers. Within 18 to 24 hours, CAST — short for Calf Antibiotic and Sulfa Test — can tell inspectors right at the slaughter plant whether calf carcasses contain drug residues. Based on the

results of this fast, efficient test, inspectors in almost 150 meat slaughtering plants nationwide determine whether to pass or condemn calf carcasses.

The intensified testing was prompted by the continued incidence of high residue levels of antibiotics and sulfas in slaughtered "bob" veal calves — calves up to three weeks of age or weighing less than 150 pounds. The meat from these young calves is used primarily in processed veal products. The residue problem does not extend to 16-week old calves raised for "fancy" veal, the source of such cuts as veal chops and roasts.

Residue problems generally occur when dairy farmers routinely give drugs to newborn calves to prevent or treat disease. Those newborn calves



The sample on top shows the calf carcass is safe to market. The other sample shows the carcass still has traces of drugs, which means it must be condemned.

not kept for herd replacement are sold and sent to slaughter. The carcasses of these calves are likely to have high drug residue levels since the drug will not have been sufficiently depleted from the calf's system.

When high levels of residues are found in a calf carcass, USDA traces it to the farmer who sold it. All future calf carcasses originating from that farm are then tested for residues before the meat can be released from the slaughter plant.

Along with the intensified testing, USDA also set up a voluntary certification program that allows farmers to certify that their calves are free of illegal drug residues. To verify the certifications, inspectors use CAST on a predetermined number of "drug-free" calves.

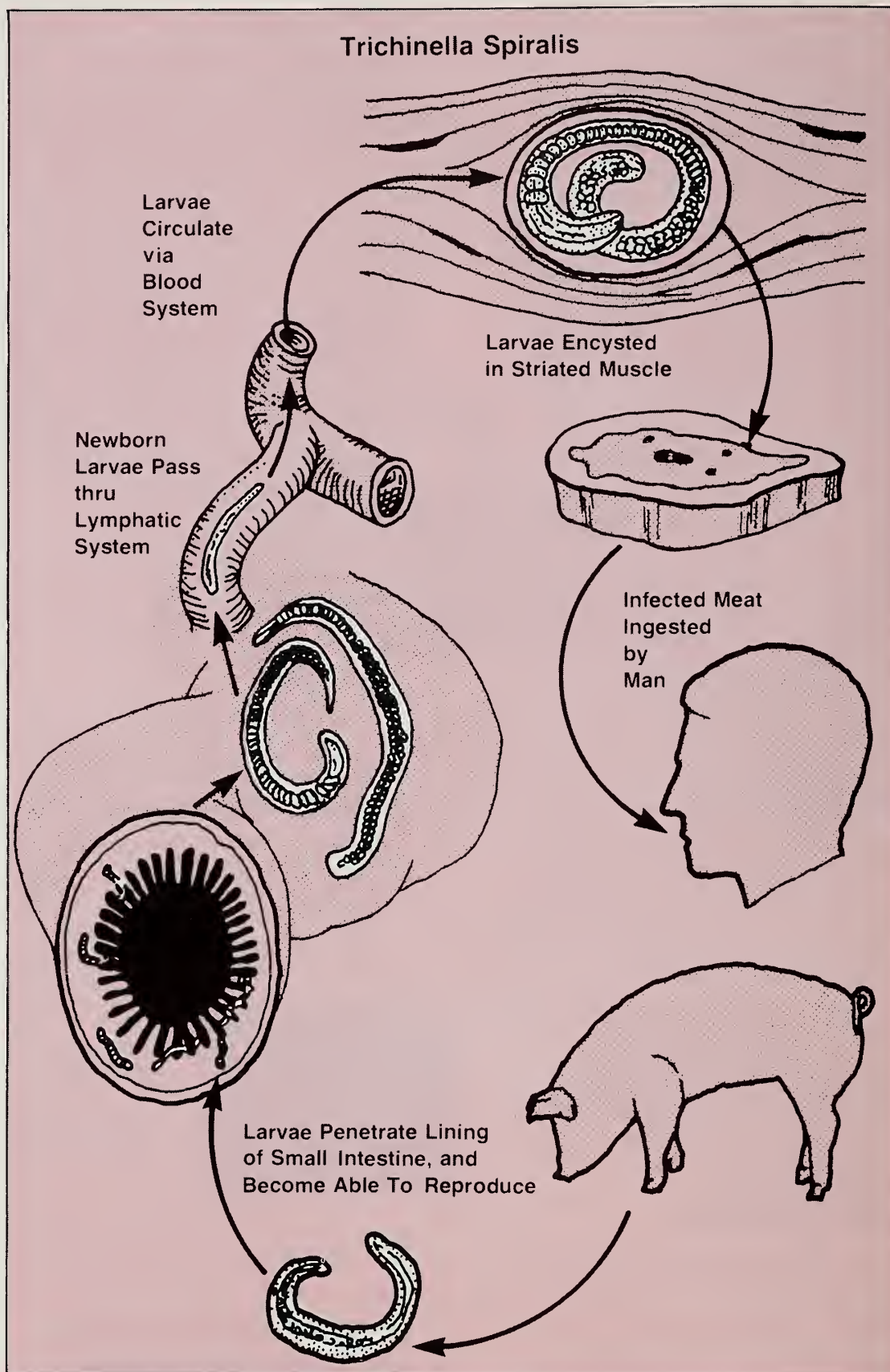
USDA's Food Safety and Inspection Service funds a special program that informs farmers about the proper use of animal drugs to avoid residue problems and about sound management practices that minimize the need for such drugs.

For more information, see: Press Release #596-84, "USDA Intensifies Veal Testing for Drug Residues," (6-5-84); or contact: Hedy Ohringer, FSIS/ILA, Room 1160-S, U.S. Department of Agriculture, Washington, D.C. 20250; telephone: (202) 447-9113.

New Blood Test Detects Trichinosis in Pigs

One day in the not too distant future, farmers could be using a blood test to check swine for trichina infection before slaughter. Still in the experimental stage, the test would help ensure that only safe, trichina-free pork finds its way to supermarket shelves, according to scientists with the U.S. Department of Agriculture.

Currently, blood tests can reveal the presence of various parasites in hogs. However, the tests are not practical since they do not tell specifically whether these parasites are



The Life Cycle of the Trichina Organism

harmful, hard-to-kill trichinae. With the new test, farmers could take blood samples from their swine and send them to a laboratory. The test would pinpoint trichinae — and nothing else.

Among domesticated food animals, pigs are the most likely to contract trichinosis, although incidence is very low. Last year, only 29

cases of human trichinosis were reported in the United States. Nonetheless, many cases probably remain undiagnosed because the symptoms in mild cases are similar to those of flu, and mistaken for such. In more serious cases, however, the disease can be seriously debilitating, or even fatal.

Consumers can protect them-

selves from trichinosis by cooking fresh pork to 170°F; fully cooked, cured ham to 140°F; raw, cured ham to 160°F; and raw, cured pork shoulder to 170°F.

Some epidemiologists are tentatively using the new test to determine the geographic distribution of trichinosis. If they can pinpoint areas where trichina is more prevalent, they will study farm management practices there to see if they can discover a possible cause of the trichinosis. Then corrective steps — such as implementing stronger rodent controls — can be taken.

For more information on the new blood test, contact: H. Ray Gamble, Beltsville Agricultural Research Center, U.S. Department of Agriculture, Beltsville, Md. 20705; telephone: (301) 344-2195.

Travelers' Luggage to Get "Shot" to Detect Forbidden Fruits

International travelers entering the United States may find a gun aimed at their luggage — but there's no cause for alarm. The gun is actually an electronic "sniffer" that detects contraband fruits and vegetables.

Scientists with USDA's Agricultural Research Service invented the suitcase sniffing gun, which was first tested this summer at the Los Angeles International Airport during the Olympics. Called a CO₂ detector by its inventors, the hand-held gun activates a warning light when it detects high levels of carbon dioxide — CO₂ — in luggage. Plant materials give off carbon dioxide once they have been picked.

Insects and diseases foreign to U.S. agriculture often hitchhike into the country on traveler's bags. This is one theory to explain the arrival of Mediterranean fruit flies in California in 1980. Eradication of the Medfly infestation in fruit growing areas cost the state and federal governments



about \$100 million.

Travelers often think that quarantine restrictions apply only to commercial importers. This is not true. It is illegal for anyone to bring many types of meats, fruits, vegetables, plants, animals, and plant and animal products into the United States without approval from USDA's Animal and Plant Health Inspection Service.

In fact, this restriction also pertains to travelers entering the continental United States from Hawaii, Puerto Rico and the Virgin Islands. In addition, individual states might have their own restrictions. Travelers should check with state departments of agriculture if they have questions in this regard.

Prohibited fruit accounted for

roughly two-thirds of the 476,000 plant products seized at U.S. international airports in 1983. Over 31,000 insects were sifted out of the seized materials.

USDA plans to next test the gun in Hawaii on baggage leaving that island for the U.S. mainland.

For more information on the CO₂ detector, contact: Paul Magidman, Chemist, Eastern Regional Research Center, U.S. Department of Agriculture, Philadelphia, Pa. 19118; telephone: (215) 233-6451.

For information on bringing food into the United States, contact: Information Office, Animal and Plant Health Inspection Service, U.S. Department of Agriculture, Rm. 1143-So., Washington, D.C. 20250; telephone: (202) 447-3977.

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